a path router, the path router being arranged to generate the first segment such that the first segment includes the source node and the second element, wherein the first segment does not include the first element, the path router further being arranged to generate the second segment such that the second segment includes the first element, the second segment being generated after the first segment is generated.

Claim 17 (original):   An apparatus according to claim 16 wherein the blocker blocks substantially all elements included in the set of elements except for the second element from being used in generating the first segment of the path.

Claim 18 (previously presented):   An apparatus for routing a path between a source node and a destination node included within a network, the network further including a plurality of elements, the apparatus comprising:

an identifier for identifying a set of elements to be included in the path, the set of elements being included in the plurality of elements;

a blocker for blocking at least a first element included in the set of elements from being used in generating a first segment of the path, wherein the blocker blocks substantially all elements included in the set of elements except for the second element from being used in generating the first segment of the path; and

a path router, the path router being arranged to generate the first segment such that the first segment includes the source node and a second element, the second element being included in the set of elements, wherein the first segment does not include the first element and the blocker is arranged to unblock the second element after the first segment is generated and to block at least one element included in the plurality of elements from being included in a second segment of the path, the at least one element included in the plurality of elements being a component of the first segment.

Claim 19 (original):   An apparatus according to claim 18 wherein the path router is further arranged to generate the second segment such that the second element is a component of the second segment.

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Claim 20 (original):   An apparatus according to claim 17 wherein the blocker is further arranged to block the source node from being included in the second segment.

Claim 21 (currently amended):   A method for computing a circuit path between a source node and a destination node of an optical network, the method comprising:

identifying at least a first element that is to be traversed by the circuit path between the source node and the destination node;

identifying a second element that is to be traversed by the circuit path between the first element and the destination node;

blocking the second element from being available for use in routing the first segment automatically, wherein routing the first segment automatically includes routing the first segment to substantially avoid including the second element as a component; and

routing a first segment automatically, the first segment being a part of the circuit path, wherein when the first element is a node, the source node and the first element are components of the first segment and wherein routing the first segment automatically included [[includew]] routing the first segment automatically using a shortest path first algorithm.

Claim 22 (canceled)

Claim 23 (canceled)

Claim 24 (currently amended):   A method as recited in claim 21 [[23]] further including:

blocking the destination node from being available for use in routing the first segment automatically, wherein routing the first segment automatically further includes routing the first segment to substantially avoid including the destination node as a component.

Claim 25 (previously presented):   A method for computing a circuit path between a source node and a destination node of an optical network, the method comprising:

identifying at least a first element that is to be traversed by the circuit path between the source node and the destination node;

identifying a second element that is to be traversed by the circuit path between the first element and the destination node;

blocking the second element from being available for use in routing a first segment automatically;

blocking the destination node from being available for use in routing the first segment automatically;

routing the first segment automatically, the first segment being a part of the circuit path, wherein when the first element is a node, the source node and the first element are components of the first segment, routing the first segment automatically including routing the first segment automatically using a shortest path first algorithm to substantially avoid including the second element as a component and substantially avoiding including the destination node as a component;

unblocking the second element such that the second element is available for use in routing a second segment automatically, the second segment being a part of the circuit path;

blocking the source node from being available for use in routing the second segment automatically; and

routing the second segment automatically, wherein the second element is a component of the second segment and the source node is not a component of the second segment.

Claim 26 (original):   A method as recited in claim 25 further including:

blocking substantially all components of the first segment from being available for use in routing the second segment automatically.

Claim 27 (original):   A method as recited in claim 26 wherein a terminus of the first segment is a beginning of the second segment, and the terminus of the first segment is not blocked from being available for use in routing the second segment automatically.

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Claim 28 (original):   A method as recited in claim 21 wherein when the first element is a first link, the method further includes:

identifying an initial node of the first link.

Claim 29 (original):   A method as recited in claim 28 wherein routing the first segment automatically includes routing the first segment from the source node to the initial node of the first link when the first element is the first link.

Claim 30 (original):   A method as recited in claim 29 further including:

routing a second segment automatically, wherein the first link is included in the second segment.

Claim 31 (cancelled)

Claim 32 (currently amended):   A method as recited in claim <u>30</u> [[31]] further including:

blocking the destination node from being available for use in routing the first segment automatically, wherein routing the first segment automatically further includes routing the first segment to substantially avoid including the destination node as a component.

Claim 33 (currently amended):   A computer program product for computing a circuit path between a source node and a destination node of an optical network, the computer program product comprising:

computer code that causes at least a first element that is to be traversed by the circuit path between the source node and the destination node to be identified;

<u>computer code that causes a second element that is to be traversed by the circuit path between the first element and the destination node to be identified; and</u>

<u>computer code that causes the second element to be blocked from being available for use in routing the first segment automatically, wherein the computer code that causes the first</u>

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segment to be routed includes computer code that causes the first segment to be routed to
substantially avoid including the second element as a component;

computer code that causes a first segment to be routed, the first segment being a part of
the circuit path, wherein when the first element is a node, the source node and the first element
are components of the first segment, and wherein the computer code that causes the first segment
to be routed includes computer code that causes the first segment to be routed using a shortest
path first algorithm; and

a computer-readable medium that stores the computer codes.

Claim 34 (canceled)

Claim 35 (canceled)

Claim 36 (original):   A computer program product as recited in claim 35 further
including:

computer code that causes the destination node to be blocked from being available for use
in routing the first segment, wherein the computer code that causes the first segment to be routed
further includes computer code that causes the first segment to be routed to substantially avoid
including the destination node as a component.

Claim 37 (previously presented):   A computer program product:

computer code that causes at least a first element that is to be traversed by the circuit path
between the source node and the destination node to be identified;

computer code that causes a second element that is to be traversed by the circuit path
between the first element and the destination node to be identified;

computer code that causes the second element to be blocked from being available for use
in routing a first segment;

computer code that causes the destination node to be blocked from being available for use
in routing the first segment;

computer code that causes the first segment to be routed, the first segment being a part of the circuit path, wherein when the first element is a node, the source node and the first element are components of the first segment, the computer code that causes the first segment to be routed including computer code that causes the first segment to be routed using a shortest path first algorithm and computer code that causes the first segment to be routed to substantially avoid including the second network element as a component and to substantially avoid including the destination node as a component;

computer code that causes the second element to be unblocked such that the second element is available for use in routing a second segment, the second segment being a part of the circuit path;

computer code that causes the source node to be blocked from being available for use in routing the second segment;

computer code that causes the second segment to be routed, wherein the second element is a component of the second segment and the source node is not a component of the second segment; and

a computer-readable medium that stores the computer codes.

Claim 38 (original):   A computer program product as recited in claim 37 further including:

computer code that causes substantially all components of the first segment to be blocked from being available for use in routing the second segment automatically.

Claim 39 (original):   A computer program product as recited in claim 33 wherein when the first element is a first link, the computer program product further includes:

computer code that causes an initial node of the first link to be identified.

Claim 40 (original):   A computer program product as recited in claim 39 wherein the computer code that causes the first segment to be routed automatically includes computer code that causes the first segment to be routed from the source node to the initial node of the first link when the first element is the first link.

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Claim 41 (original):   A computer program product as recited in claim 40 further
including:

computer code that causes a second segment to be routed automatically, wherein the first
link is included in the second segment.

Claim 42 (original):   A computer program product as recited in claim 33 wherein the
computer-readable medium is one selected from the group consisting of a hard disk, a CD-ROM,
a DVD, a computer disk, a tape drive, a computer memory, and a data signal embodied in a
carrier wave.

Claim 43 (new):   A device according to claim 1 wherein the second segment is
computed after the first segment is computed.

Claim 44 (new):   A method as recited in claim 21 wherein blocking the second
element from being available for use in routing the first segment automatically includes placing
the second element in a list of elements that are arranged to be eliminated from consideration in
routing the first segment.

Claim 45 (new):   A computer program product as recited in claim 33 wherein the
computer code that causes the second element to be blocked from being available for use in
routing the first segment automatically includes computer code for placing the second element in
a list of elements that are arranged to be eliminated from consideration in routing the first
segment.